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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BLACKWELL, JAMES H

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,253

Applicant(s)

NIELSEN, ANDREW S.

Examiner

James H. Blackwell

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to amendment filed 05/23/2005 to an original application filed 01/22/2002 with **priority date 01/22/2002**.
2. Claims 1-9 remain pending. Claim 1 is the independent claim.
3. The 35 USC 112, First Paragraph rejection of Claim 6 has been withdrawn as necessitated by amendment.
4. The 35 USC 101 rejection of Claim 1-9 have been withdrawn as necessitated by amendment.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, the amended phrase "receiving computer code representative of the first document" makes it unclear as to whether the document is computer code (such as C, C++, Java, etc.) or that the document is a markup document such as (HTML, XHTML, XML, SGML). In the case of the latter, markup languages are not typically referred to as code, but rather as structured, or semi-structured documents, for example.

In addition, all of the claims, as amended, make considerable confusing references to attributes, elements, and instructions. Typically, when discussing markup,

or structured (or semi-structured) documents, one refers to tags (or elements), and tag (or element) attributes. Instructions could be interpreted as either contents of those tags (or elements), typically what is contained within the start and end tags (or elements), or, as values assigned to attributes of the tags (or elements).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4, and 7-9 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama et al. (hereinafter Aoyama, U.S. Patent No. 5,956,726, filed 06/03/1996).

In regard to independent Claim 1, Aoyama teaches *receiving computer program code representative of the first document; receiving computer program code representative of the second document; inserting at least one compare instruction into one of the computer program code representative of the first document and the computer program code representative of the second document* in that Aoyama's invention produces as examples documents as shown in Figs. 3a and 3b. Fig. 3a represents the original document, while Fig. 3b represents an edited version of Fig. 3a. Fig 3b has had *inserted* an additional document structure. Aoyama does not explicitly teach that the documents are *computer program code representative of a document*.

However, Aoyama does teach comparing (differencing) markup documents making it obvious to one of ordinary skill in the art at the time of invention to conclude that the computer program codes representative of the first and second documents are markup documents providing the benefit of a document structure to add content for the purpose of directing the process of differencing two documents.

Aoyama also teaches that each of the tags in these two documents have assigned to them one of the following four types of comparison criterion (*instructions*): (1) Tags having the contents which are compared only when the particular tags are coincident with each other (identity tags); (2) Tags having the contents the difference of which is ignored at the time of comparison (ignoring tags); (3) A set of tags identical to each other in logical meaning (equivalence tags, such as "FIRST ITEM" and "ITEM"); and (4) A set of tags having the contents which are not compared with each other (no-comparison tags) (Col. 3, lines 48-61). Here, the claimed *compare instruction* is inserted into the second document in the form of additional content.

Aoyama continues by teaching *comparing the first document and the second document based on the compare instruction* in that Aoyama's invention teaches a structured document difference extraction method including memory means for storing structured documents defined as information on the logical structure of documents before and after editing such as deletion, insertion or change, and a processor for extracting a character string non-coincident between the structured documents before and after editing as a difference, comprising the steps of: editing and storing a structured document in the memory means; parsing the logical structures of the

structured document before and after editing read from the memory unit on the basis of a set comparison criterion; and extracting the difference between the structured documents in such a manner as to satisfy the comparison criterion in accordance with the result of parsing of the structured documents. The comparison criterion includes tags indicating logical structures and types of comparison criterion corresponding to the tags with the contents thereof being stored in a table (Col. 14, lines 50-67; Col. 15, lines 1-3).

In regard to dependent Claim 2, Aoyama teaches *the inserting one of an ignore element instruction, an ignore attributes instruction, and an unordered instruction* in that constructing comparison criteria that include tags indicating logical structures and types of comparison criterion corresponding to the tags with the contents thereof being stored in a table. There are four types of comparison criteria, one being criteria (2) Tags having the contents the difference of which is ignored at the time of comparison (*ignoring tags*) (Col. 3, lines 48-57).

In regard to dependent Claim 3, Aoyama teaches *the step of inserting an ignore element instruction* in that constructing comparison criteria that include tags indicating logical structures and types of comparison criterion corresponding to the tags with the contents thereof being stored in a table. There are four types of comparison criteria, one being (2) Tags having the contents the difference of which is ignored at the time of comparison (*ignoring tags*) (Col. 3, lines 48-57).

Aoyama also teaches that *when comparing the first document and the second document, ignoring the elements specified by the ignore element instruction when*

comparing the first document and the second document in that Aoyama's invention teaches in processing example 2, a step where a "<CHAPTER NUMBER>" tag is encountered. This tag is defined as an ignoring tag. In this case, the difference in chapter number is ignored during the comparison. This is because it has no effect on difference extraction (Col. 9, lines 29-44).

In regard to dependent Claim 4, Aoyama teaches *inserting an ignore attributes instruction* in that constructing a comparison criteria that includes tags indicating logical structures and types of comparison criterion corresponding to the tags with the contents thereof being stored in a table. There are four types of comparison criteria, one being (2) Tags having the contents the difference of which is ignored at the time of comparison (ignoring tags) (Col. 3, lines 48-57).

Aoyama also teaches that *ignoring the attributes specified by the ignore attributes instruction when comparing the first document and the second document* in that Aoyama's invention teaches in processing example 2, a step where a "<CHAPTER NUMBER>" tag is encountered. This tag is defined as an ignoring tag. In this case, the difference in chapter number is ignored during the comparison. This is because it has no effect on difference extraction (Col. 9, lines 29-44).

In regard to dependent Claim 7, Aoyama fails to explicitly teach the *searching for an unordered attribute* or the specific processing algorithms implied by the claim that *when an unordered attribute is not detected or an unordered attribute has a first predetermined value, performing a comparison between the first document and the second document; when an unordered attribute has a second predetermined value;*

wherein the order of the elements is considered in the comparison. However, it would have been obvious to one of ordinary skill in the art at the time of invention to assume that specific attributes, their names and values dictates the processing steps in comparing the two documents, providing the benefit of a selective comparison based on conditions.

In regard to dependent Claims 8-9, Aoyama teaches that *the computer program code representative of the first document and the computer program code representative of the second document are markup language computer code* in that Aoyama's invention compares differences in two structured documents, in this case SGML (*the markup language computer code is one of XML, HTML, SGML, WML, and XHTML*) (Col. 1, lines 51-61).

9. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama in view of Birsan et al. (hereinafter, Birsan, U.S. Patent No. 6,848,078)..

In regard to dependent Claim 5, Aoyama fails to teach *inserting an unordered attribute instruction*. However, Birsan teaches the use of an ID attribute of the elements of the base file and the modified file being compared. The step of comparing may also use a name attribute of the elements of the base file and the modified file being compared. Further, the step of comparing may use, when the hierarchically structured files are XML (extensible markup language) files, if provided by the elements of the base and modified files being compared, an attribute of type ID, or if an attribute of type ID is not provided by the elements of the base and modified files being compared, a

<Uuid> tag if provided by the elements of the base and modified files being compared, or if an attribute of type ID and a <Uuid> tag is not provided by the elements of the base and modified files being compared, a name attribute if provided by the elements of the base and modified files being compared, or if an attribute of type ID, a <Uuid> tag and a name attribute is not provided by the elements of the base and modified files being compared, a concatenation of a tag of the element and a value of the element (Col. 2, lines 18-36).

Essentially, Birsan uses a variety of attributes that are compared between documents based on some comparison logic. The insertion of such attributes, and their analysis by the logic will determine if the order of the attributes is important. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Aoyama and Birsan as both inventions relate to comparing two structure documents based on comparing their structure trees. Adding the teaching of Birsan allows for certain attributes to be ignored as far as ordering is concerned.

Aoyama also fails to teach that *comparing the first document and the second document in a manner based on the compare instruction comprises: ignoring the order of the elements specified by the unordered attribute instruction when comparing the first document and the second document*. However, Birsan teaches that to allow for different ordering of nodes within a level, the dependency of the order among siblings may be ignored in identity, in which case an assumption is made that the node_s different among sibling nodes (Col. 8, lines 1-4). Thus, based on an identity attribute, the ordering of elements may be ignored when performing the comparison of XML trees

representing two XML documents that are being compared. It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Aoyama and Birsan as both inventions relate to comparing two structured documents using trees. Adding the teaching of Birsan provides the benefit of ignoring the order of elements.

In regard to dependent Claim 6, Aoyama teaches *parsing the representation of the first document to generate a first internal representation thereof; parsing the representation of the second document to generate a second internal representation thereof* in that Aoyama's invention parses the logical structures of the structured document before and after editing read from the memory unit on the basis of a set comparison criterion (Col. 3, lines 41-43). In addition,

Aoyama also teaches that a document tree representing the structure of each structured document is produced by the parsing step (Col. 4, lines 36-44).

Aoyama also teaches *comparing each element of the first document and the second document that is not associated with a compare instruction* in that Aoyama's invention teaches comparing contents of tags including tags having contents which are compared only when the particular tags are coincident with each other, tags having contents which are ignored at the time of comparison, a set of tags having the same logical meaning, and a set of tags having contents which are not compared with each other (Abstract).

Aoyama fails to teach *comparing child nodes in a non-ordered manner when a non-ordered attribute instruction is used in the parent node*. However, Birsan teaches

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that to allow for different ordering of nodes within a level, the dependency of the order among siblings may be ignored in identity, in which case an assumption is made that the node_s different among sibling nodes (Col. 8, lines 1-4). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Aoyama and Birsan as both inventions relate to comparing two structured documents by elements, nodes, and attributes. Adding the teaching of Birsan provides the benefit of selective comparison of structured document components.

Response to Arguments

10. Applicant's arguments filed 05/23/2005 have been fully considered but they are not persuasive. Specifically, the Applicant argues that Aoyama simply inserts tags or the like into a document. These tags, shown in Fig. 3 of Aoyama, are elements of the document and are not instructions. Likewise, these tags do not function as instructions as claimed in claim 1. The Examiner respectfully disagrees. The tags, as taught by Aoyama direct or instruct (by themselves) the differencing (comparison) process to perform (or not perform) differencing (comparisons) between the two documents. The tags act as instructions as they tell the differencing (comparison) process what to do with respect to content that is contained within their tag bounds.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Blackwell whose telephone number is 571-272-4089. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R. Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James H. Blackwell
07/27/05

William L. Bashore
WILLIAM BASHORE
PRIMARY EXAMINER
7/28/2005